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CONTRIBUTIONS TOWARD

A FLORA OF NEVADA. NO. 30.

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VIOLACEAE OF NEVADA

by

C. O. Erlanson

May 20, 1941.

Issued by

The Division of Plant Exploration and Introduction,
Bureau of Plant Industry,
U. S. Department of Agriculture,
Washington, D. C.

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Work Projects Administration of Nevada,
Projects, O. P. 65-2-04-13, W. P. 658;
O. P. 165-2-04-21, W. P. 752.

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Collaborator

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VIOLACEAE OF NEVADA

By C. O. Erlanson

Perennial herbs with alternate, stipulate leaves and complete flowers. Sepals 5, persistent. Corolla irregular, of 5 unequal petals, the lower one spurred or saccate. Stamens 5, with short, broad filaments bearing the anthers on their inner face and connivent over the ovary. Ovary superior, one-celled, developing into a 3-valved capsule. Style and stigma one. Seeds relatively large.

Only the genus Viola in Nevada.

VIOLA L.

VIOLA L. Sp. Pl. p. 933. 1753.

Small herbs, caulescent or acaulescent, with or without stolons. Peduncles axillary, one-flowered. Stipules persistent. Sepals produced below the point of attachment into auricles. Stamens with broad connectives prolonged beyond the anthers. The two lower stamens with appendages prolonged backwards into the spur of the corolla. The 3-valved capsule ejects the seeds with violence on drying.

KEY TO THE SPECIES.

1. Plants acaulescent; flowers white or blue.
 2. Plants stoloniferous, very small; flowers white; rootstock delicate; margin of leaves entire or almost so.
 1. V. Macloskeyi.
 2. Plants not stoloniferous; flowers blue-violet; rootstock thick; margin of leaves crenate-serrate.
 3. Leaves glabrous 2. V. nephrophylla.
 3. Leaves slightly pubescent toward the base on the veins and margins . . . 2a. V. nephrophylla var. arizonica.
1. Plants caulescent, the stem hardly apparent in some cases.
 4. Leaves palmately divided; flowers bicolored, pansy-like.
 3. V. Beckwithii.
 4. Leaves not divided.
 5. Flowers violet, long-spurred.
 6. Leaves and stem pubescent 4. V. adunca.
 6. Leaves and stem glabrous . . . 4a. V. adunca f. glabra.
 5. Flowers yellow; spur short; at least some of the petals tinged with brown-purple on the outside.
 7. Leaf-blades commonly 4-8 cm. long, glabrous to somewhat hirtellous on veins and margins, margins entire to obscurely crenate-serrate; petals not or only slightly tinged with purple on the back . . 5. V. Nuttallii var. linguaeifolia.
 7. Leaf-blades smaller, strongly pubescent at least on the underside, toothed, angular, or entire;

some of the petals strongly tinged with brown-purple.

8. Leaves densely pilose, at least the lower ones

coarsely dentate, the teeth with white

callosities 6. V. aurea.

8. Leaves canescent-hirsutulous, coarsely few-

toothed, angulate-lobed or entire.

9. Leaf-blades coarsely few-toothed or strongly

angled; some of the leaves subcordate

at base 7. V. purpurea var. venosa.

9. Leaf-blades entire or remotely angled;

none of the leaves subcordate; plant

usually less compact and more slender.

7a. V. purpurea var. pinetorum.

1. VIOLA MACLOSKEYI Lloyd, Erythea 3: 74. 1895.

V. anodonta Greene, Pittonia 5: 32. 1902.

V. blanda var. Macloskeyi Jepson, Man. Fl. Pl. Calif.

p. 648. 1925.

Plants very small, usually 3-5 cm. tall, occasionally to 8 cm., with delicate rootstock and stolons; leaves orbicular to oblong-ovate, entire to obscurely crenate, glabrous or with a few white hairs on petiole and underside of blade, truncate to open-cordate at base, rounded at apex, translucent; peduncles usually longer than the leaves, glabrous; sepals ovate-lanceolate, obtuse, glabrous; petals white, the lower

petals strongly veined with purple; capsule glabrous.

Alpine meadows.

Nevada: Washoe and Douglas Counties.

2. VIOLA NEPHROPHYLLA Greene, Pittonia 3: 144. 1896.

Plant glabrous, at anthesis from a few cm. to 15 cm. tall depending on its situation, not stoloniferous; rootstock thick, erect or ascending; leaves firm, subcoriaceous, commonly with a grayish cast; blade broadly ovate, open-cordate at base, obtuse to rounded at apex, the first leaves reniform, margins crenate-serrate; peduncles usually longer than the leaves; sepals ovate-lanceolate, glabrous, the auricles usually spreading; petals blue-violet, whitish toward the base and veined with purple, the lateral and usually the upper and lower petals bearded, spur short, the upper petals commonly recurved; capsule glabrous.

Meadows and stream-banks.

Nevada: Clark, Lander, Washoe, Ormsby, Nye and Elko Counties.

2a. VIOLA NEPHROPHYLLA var. ARIZONICA (Greene) Kearn. & Peebles,

Journ. Wash. Acad. Sci. 29: 487. 1939.

V. arizonica Greene, Pittonia 5: 33. 1902.

Differs from the typical form only in having leaves with sparse pubescence toward the base of the blade on the veins and margins.

Sandy loam.

Nevada: White Pine County.

3. VIOLA BECKWITHII Torr. & Gray in Beckwith, Surv. 41st Par.,

Pac. R.R. Rep. 2: 119. 1855.

Plants 5-10 cm. tall; the stems rising vertically from a deeply buried rootstock with the short aerial part ascending; leaves biternately divided, the primary divisions petiolulate, the ultimate segments linear to linear-spatulate, puberulent to glabrate, at least the margins ciliate, tipped with a white callosity; sepals broadly lanceolate, usually ciliate, acute or obtuse; flowers large, pansy-like, the two upper petals deep purple, the three lower white to light blue, purple-veined, with yellowish base; spur short; capsule glabrous.

Open slopes; sporadic in distribution.

Nevada: Washoe, Storey, Humboldt, Mineral and Douglas Counties.

4. VIOLA ADUNCA J. E. Smith in Reese, Cyclop. 37: no. 63. 1817.

V. montanensis Rydb. Mem. N.Y. Bot. Gard. 1: 263. 1900.

V. oxysepala Greene, Leaflets 2: 34. 1910.

Plants puberulent, the stems tufted from a branching rootstock; leaves ovate, finely crenate-serrate, truncate or subcordate at the base, obtuse at apex; peduncles usually longer than the leaves; sepals lanceolate, the auricles rather well developed; petals violet-blue, spur long, lateral petals with

tufted beard, the upper petal occasionally also bearded; capsule glabrous.

Meadows and loamy pockets.

Nevada: Elko County.

4a. VIOLA ADUNCA forma GLABRA (Brainerd) G. N. Jones, Univ. Wash.

Publ. Biol. 5: 194. 1936.

V. adunca var. glabra Brainerd, Rhod. 15: 109. 1913.

Similar to the typical form except that the stems and leaves are glabrous.

This is apparently more common in Nevada than the typical form.

Nevada: Elko and Eureka Counties.

5. VIOLA NUTTALLII var. LINGUAEFOLIA (Nutt.) Jepson, Man. Fl. Pl.

Calif. p. 645. 1925.

V. linguaefolia Nutt. in Torr. & Gray, Fl. N. Am. 1: 141.
1838.

Plant 10-20 cm. tall, almost acaulescent at anthesis, glabrous to somewhat hirtellous; leaves elliptic-ovate, entire to obscurely crenulate, the blades 3-8 cm. long, as long as or shorter than the petioles; sepals linear-lanceolate, acute, glabrous or slightly puberulent on the auricles; petals yellow, the upper ones not or slightly tinged with purple on the outside, the three lower petals purple-veined, the lateral petals bearded; capsule glabrous or slightly puberulent.

Moist situations.

Nevada: Elko, Washoe, White Pine and Lander Counties.

6. VIOLA AUREA Kellogg, Proc. Calif. Acad. 2: 185. 1862.

V. purpurea var. aurea Jepson, Fl. Calif. 2: 521. 1936.

Plant 4-10 cm. tall, densely pilose; stems short, caespitose; leaf-blades 15-30 mm. long, narrowly to broadly ovate, truncate at base, somewhat decurrent into petiole, margins coarsely serrate or sinuately dentate, the teeth with white callosities, petiole usually several times longer than blade; peduncles usually longer than the leaves; sepals lanceolate, pilose; petals yellow, the upper ones tinged with brown-purple on the outside; lateral petals bearded, spur short, the lower petals purple-veined; capsule hirtellous.

Dry soil.

Nevada: Washoe, Storey, Douglas and Ormsby Counties.

7. VIOLA PURPUREA var. VENOSA (S. Wats.) Brainerd, Bull. Vt.

Agric. Exper. Sta. 224: 111. 1921.

V. Nuttallii var. venosa S. Wats. Bot. King Exped. p. 35. 1871.

V. venosa Rydb. Mem. N.Y. Bot. Gard. 1: 262. 1900.

Plant usually 5-8 cm. tall from a vertical rootstock; stem short, ascending, hirtellous-puberulent; leaves with rhombic-ovate blades, glabrate to glabrous above, hirtellous beneath and on the petioles, margin sinuate-toothed or angled,

the teeth commonly about 5; peduncles about as long as the leaves; sepals lanceolate, acute, glabrate to hirtellous; petals yellow, heavily tinged with brown-purple on the outside, lateral petals bearded, spur short, the three lower petals purple-veined; capsule puberulent.

Dry slopes.

Nevada: Washoe, Douglas, Lander, Humboldt, Elko, White Pine, Eureka, Ormsby and Clark Counties.

7a. VIOLA PURPUREA var. PINETORUM Greene, Fl. Franciscana p. 243.
1891.

V. pinetorum Greene, Pittonia 2: 14. 1889.

Plants 8-15 cm. tall, usually taller and more slender than var. venosa, hirtellous-puberulent throughout, except that occasionally the upper surface of leaf is almost glabrous; leaves ovate to lanceolate, margins entire to remotely angled, the first leaves sometimes slightly dentate; flowers and fruit as in the var. venosa, except that commonly only the two upper petals are strongly tinged with brown-purple.

Slopes.

Nevada: Washoe, Lander and Clark Counties.

